



MICROFILM SERVICES
GENERAL COMPUTING CORPORATION

Gentlemen:

Microfilm has proven to be the most economical and usable computer output media available for applications when large volumes of data must be printed and referred to often.

We are offering to you our services for printing your computer generated magnetic tapes directly onto microfilm. Tapes must be compatible with IBM 729 Tape Transport.

A Stromberg-Carlson S-C 4400 Microfilm Printer is used to electronically translate your magnetic tape information into alphanumeric characters and print out directly onto 16mm microfilm with forms data and retrieval codes.

We will arrange for your tapes to be picked up daily and for their return the following day with as many microfilm copies as desired.

The first copy cost ranges from one to five cents per page depending on monthly volume. Duplicate copies are provided at one-fourth to one cent per page. These charges cover material and service. Per page cost will average less than one-third of your present cost of printing on paper.

You are invited to attend seminars regularly held each Monday at General Dynamics, 30th Floor Projection Room, to determine for yourself the ease of programming for the S-C 4400 and economics of microfilm applications. Call Mary Elizabeth Efird (CI 5-5000 X-340) for reservations.

We would appreciate the opportunity to work with you to provide your computer users with microfilm output.

Please do not hesitate to call at your earliest convenience.

Very truly yours,

A handwritten signature in cursive script that reads 'Charles Alexander' followed by a small monogram 'th'.

Charles Alexander
Vice President & General Manager

CA:th

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TELEPHONE: 581-5299

DIVISIONS: CONSULTING & PROGRAMMING, DATA PROCESSING, ENGINEERING & MANUFACTURING

General Computing
550 Fifth Avenue
New York, New York 10036
(212) 581-5299

PRICE INFORMATION

Effective 1 January 1966

<u>Price</u>	<u>Description of Service</u>
1. \$.05	Printing per page on microfilm from magnetic tape
2. \$100	Form slide produced from customer supplied art work
3. \$15	Per hour for forms design specialist
4. \$15	Per hour for programming and consulting service
5. \$500	Conversion of most print programs to S-C 4400 compatibility

The following price schedule applies where minimum monthly print volume is guaranteed for duration of six or twelve months. The rate per page applies for pages exceeding guaranteed minimum volume plus free pages established as bonus.

Monthly Guarantee		Six Month Contract				Twelve Month Contract			
<u>Price</u>	<u>Pages</u>	<u>% Bonus</u>	<u>Free Pages</u>	<u>\$ Value</u>	<u>Rate</u>	<u>% Bonus</u>	<u>Free Pages</u>	<u>\$ Value</u>	<u>Rate</u>
\$ 2,000	40,000	10%	4,000	\$ 200	\$.045	30%	8,000	\$ 400	\$.042
3,000	60,000	15%	9,000	450	.043	40%	24,000	1,200	.036
4,000	80,000	20%	16,000	800	.042	50%	40,000	2,000	.033
5,000	100,000	25%	25,000	1,250	.04	60%	60,000	3,000	.031
6,000	120,000	30%	36,000	1,800	.038	70%	84,000	4,200	.03
7,000	140,000	35%	49,000	2,450	.037	80%	112,000	5,600	.027
8,000	160,000	40%	64,000	3,200	.035	90%	144,000	7,200	.026
9,000	180,000	45%	81,000	4,050	.034	100%	180,000	9,000	.025
10,000	200,000	50%	100,000	5,000	.033	110%	220,000	11,000	.01

MICROFILM ORIENTATION SEMINAR

PLACE: General Dynamics
Projection Room, 30th Floor
One Rockefeller Plaza
New York City

TIME: 1:30 P.M. to 5:00 P.M.

DATE: Every Monday

FOR RESERVATIONS CALL: Mary Elizabeth Efird CI 5-5000 X-340

AGENDA

1:30 - 1:35 Welcoming Statements

1:35 - 1:40 Seminar Objective

1:40 - 2:00 Microfilm Services Available

2:00 - 2:10 Mechanics for Using Services

2:10 - 2:20 Reasons for Using Microfilm

2:20 - 2:40 Microfilm Equipment and System Available

2:40 - 3:00 S-C 4400 Function and Features

3:00 - 3:15 Coffee Break

3:15 - 4:30 Programming for S-C 4400 Computer to Microfilm Recorder

4:30 - 5:00 Question and Answer Period

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ECONOMIC ANALYSIS

Microfilm vs. Paper

Results: Microfilm \$.03 Per Page vs. Paper \$.11 Per Page

The printing time and material required for a print load of 250,000 pages per month is selected as an example. Printing is defined for the present system as producing fan-folded paper from magnetic print tapes. Printing is defined for the microfilm system as producing microfilm copy from magnetic print tapes.

It is assumed that all pages of print contain 64 lines a page, 132 characters a line. It is also assumed that the rated printing speed of the present paper printing systems is 600 lines a minute.

The rated printing speed is not realized due to set-up time, paper handling, magnetic tape handling and other miscellaneous items. Typical printing realization or efficiency for paper line printer operations is

75% for single part forms,
70% for two part forms, and
65% for three part forms.

Assuming 16 different forms designs are used with varying quantities of each for one, two, and three parts, the cost ranges from \$4.00 to \$30.00 per 1,000 sets. \$13.50 per 1,000 sets is used as an average for this analysis.

Paper Printer

At 64 lines a page the hourly print rates are as follows:

Single Part:

$600 \text{ lines/min.} \times .75 = 450 \text{ lines/min.} = 409 \text{ pages/hr.}$

Two Part:

$600 \text{ lines/min.} \times .70 = 420 \text{ lines/min.} = 393 \text{ pages/hr.}$

Three Part:

$600 \text{ lines/min.} \times .65 = 390 \text{ lines/min.} = 365 \text{ pages/hr.}$

Using these printing rates and assuming 50% Single Part, 25% Two Part, and 25% Three Part, the monthly printing times required are as follows:

Single Part:	$\frac{125,000 \text{ pages/mo.}}{409 \text{ pages/hr.}}$	=	306 hrs./mo.
Two Part:	$\frac{62,500 \text{ pages/mo.}}{393 \text{ pages/hr.}}$	=	156 hrs./mo.
Three Part:	$\frac{62,500 \text{ pages/mo.}}{365 \text{ pages/hr.}}$	=	171 hrs./mo.
Total:	600 Line Printer		633 hrs./mo.
Assuming 22 working days a month:			29 hrs./day

Computer rental plus labor and overhead varies from \$30 to \$50 per hour with the equipment configuration depending on the number of tape transports, card reader/punch, etc., tied up while printing. \$40 per hour rate is used in this analysis.

Present Printing Cost

Printing Time	633 hrs./mo.	
Printer Cost and Labor	x 40/hr.	
	\$25,320/mo.	
		\$25,320/mo.
	Paper Forms Cost and Ribbon	3,375/mo.
	Total Cost	\$28,695/mo.
Microfilm from General Computing 250,000 pages/mo. plus duplicate copies		\$7,500/mo.
Savings		\$21,195/mo.
Cost per page of paper		\$.11
Cost per page of original microfilm from General Computing		\$.027
Cost per page of duplicate copies from General Computing		\$.0025

In addition to the economical advantages of a microfilm system, there are other advantages which include the following:

1. Faster information retrieval
2. Better customer service
3. Easier information handling
4. Faster turn-around
5. Versatility of manipulating information
6. Better control of information
7. Better accessibility to more information
8. Faster duplication of information
9. Quiet equipment operation